DOCUMENT RESUME

ED 331 811 SP 033 042

AUTHOR Seifert, Kelvin L.
TITLE Who Are the Experts? Teachers' and Professors' Knowledge of Developmental Psychology.
PUB DATE 6 Apr 91
NOTE 12p.; Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, April 3-7, 1991).
PUB TYPE Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Child Development; Child Psychology; Classification; *Cognitive Processes; *Cognitive Style; *College Faculty; Comparative Analysis; *Developmental Psychology; Elementary Education; *Elementary School Teachers; Epistemology; Higher Education; Teaching Experience
IDENTIFIERS *Teacher Knowledge

ABSTRACT

This research compared how elementary school teachers and professors of developmental psychology organize knowledge about child development. It compared them in the light of two hypotheses: (1) compared to professors, teachers are "novices" about developmental psychology; and (2) compared to professors, teachers have "different," rather than deficient, knowledge about development and organize their knowledge differently. According to the second hypothesis, teachers and professors are both "novices," but only with respect to each other. Results supported the cognitive difference hypothesis more strongly than cognitive deficit: professors and teachers highlighted different sorts of issues about children when organizing their knowledge of developmental psychology, even though professors provided more verbally prolific taxonomies overall. (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED331811

Who Are The Experts?

Teachers' and Professors' Knowledge of Developmental Psychology

Kelvin L. Seifert

Center for Educational Research at Stanford

Stanford University

BEST COPY AVAILABLE

Paper presented at the Annual Meeting of the American Educational Research Association, April 6, 1991, Chicago, USA.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Kelvin L. Seifert

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

SP033042

ABSTRACT

This research compared how elementary school teachers and professors of developmental psychology organize knowledge about child development. It compared them in the light of two hypotheses: 1) compared to professors, teachers are novices about developmental psychology, and 2) compared to professors, teachers have different, rather than deficient, knowledge about development and organize their knowledge differently. According to the latter hypothesis, teachers and professors are both "novices," but only with respect to each other. Results supported the cognitive difference hypothesis more strongly than cognitive deficit: professors and teachers highlighted different sorts of issues about children when organizing their knowledge of developmental psychology, even though professors' provided more verbally prolific taxonomies overall.

Author Note

Please address correspondence to Kelvin L. Seifert, Room 109, Center for Educational Research at Stanford, Stanford University, Stanford, CA 94305.

WHO ARE THE EXPERTS?

TEACHERS' AND PROFESSORS' KNOWLEDGE OF DEVELOPMENTAL PSYCHOLOGY

Kelvin L. Seifert

Stanford University

Leaders in both psychology and education often argue that teachers in elementary schools, nurseries, and child care centers should study child development (NAEYC, 1982; Bredekamp, 1986; Thies-Sprinthall and Sprinthall, 1987). The reason for including this field in professional preparation is its apparent relevance to practical work with young children. Yet child development, like other subjects with roots in academia, is not necessarily seen as practical or relevant by students or teachers themselves. Rightly or wrongly, many teachers regard knowledge of children's growth and development as deriving largely or even exclusively from teachers' personal experience, not from books or classroom discussions (Zeichner, 1986; Feiman-Nemser and Buchmann, 1986).

Underlying this conflict of perspectives are important differences in assumptions about the nature of professional knowledge, and of knowledge about child development in particular. On the one hand is what might be called the "novice-deficit" assumption: in this view, teachers show qualities of novices in their general, intellectual thinking about child development. Like novices in other fields, teachers of preschool and school-age children tend to talk about developmental issues (though not necessarily about individual children) in relatively stereotypical terms, tend to misclassify border-

line or unusual behaviors, and lack a rich knowledge base of developmental concepts (Berliner, 1988; Chi and Ceci, 1987).

But against this rather unflattering interpretation can be put a "novice-difference" assumption: in this view, early childhood teachers have different forms knowledge about child development, rather than less knowledge. Teachers' success with real, live children implies that rather than failing to learn about developmental psychology, teachers have modified or transformed knowledge of this field to fit the everyday conditions in which they work (Lave, 1988; Saxe, 1990). Viewed this way, teachers of young children may only be novices with regard to one form of developmental knowledge, academic developmental psychology.

The study reported here tested these two possibilities by comparing how academic developmental psychologists and public school teachers organized their knowledge of child development into conceptual taxonomies. The results were analyzed so as to clarify the respective merits of the novice-deficit and novice-difference assumptions described above. In essence, the study determined how, if at all, these two ideas characterize the gap in teachers' and professors' knowledge about child development. Did the teachers really know less about development, as their shorter formal education might imply; and did they really organize it less well? Or did teachers simply know something different about children--something based on their own, presumably more practical expertise? The answers to these questions have important implications for future priorities and approaches to the

professional training of teachers and other professionals working with children.

SUBJECTS AND METHODS

Subjects consisted of two groups, professors of child development and teachers of young children taking a first course in child development. The professors were members of the Society for Research on Child Development, listed in the directory of that organization. These individuals were chosen at random, provided that their directory entry listed an academic specialty related to child development (e.g. "developmental psychology," "human development," or the like), and provided that it listed an academic rank of associate professor or above. The latter limitation helped to insure that the professors had truly long-term commitments to academic work in this field (i.e. new or graduate-student instructors were ruled out). Because individuals were chosen randomly, they were not necessarily "big names" in the field of academic developmental psychology. Fifty professors were contacted by mail; thirty replied; and twenty of these provided usable taxonomies.

The early childhood teachers consisted of graduate students in early childhood education taking a first, but graduate-level course in developmental psychology. All of the students had significant experience teaching (5-18 years). About 2/3's currently taught in the primary grades, early childhood classrooms, or special education programs for young children; the remainder had shifted from classroom teaching to various forms of consulting services in the public

schools. Thirty-eight such students were invited to participate voluntarily in the experiment; of these, 21 in fact volunteered and provided usable taxonomies. Students created their taxonomies individually, working at the end of a class session.

Whether professors or teachers, subjects received a written questionnaire and instruction sheet explaining the purposes of the study and suggesting three ways of creating a taxonomy of their knowledge about child development. One suggestion involved making a hierarchical "tree diagram"; another involved making overlapping circles or "Venn diagrams"; and a third involved making a flow chart, like ones used in computer programming. Subjects were also encouraged to combine methods, or to think of their own.

DATA ANALYSIS

Taxonomies were analyzed both for the content of their terms and for taxonomic or hierarchical organization. This article reports only the content of the terms--or more precisely, the themes underlying the content. Themes were identified by inspection, following methods used both by Chi in expert-novice research (Chi, et al., 1982), though also consistent with some aspects of Lave's research on everyday cognition (1988).

Viewed broadly, professors proved more verbally prolific than teachers: the 20 individuals named a total of 302 terms related to child development, compared to 145 terms named by the teachers. The difference existed even after allowing for repetitions of terms:

professors named 187 different terms at least once, compared to 102 terms named at least once by teachers.

In naming terms, the two groups showed little verbatim overlap. Just five terms occurred in exactly the same form in the taxonomies of both groups: child development (perhaps not surprisingly), family, society, conception, and language. All other terms occurred in similar or related forms: education (vs. "implications for education"), for example, and social (vs. "social skills"). The remaining analysis therefore focused on identifying and comparing themes or concepts underlying similar terms.

Three major thematic differences emerged from comparing the teachers' and professors' taxonomies. The first had to do with theorists vs. theories: early childhood teachers named many well-known psychologists (7 different individuals, named 18 times), compared to professors (1 individual--Vygotsky--named only once). Instead of naming people, professors named developmental or psychological theories (9 of them, named 25 times, compared to only one theory--behaviorism--named by teachers).

The second thematic difference related to social relevance: early childhood teachers incorporated a wide variety of significant social problems into their taxonomies (17 of them, named 40 times), compared to professors' taxonomies (just 2 social problems, named once each). Teachers' social problems included "divorce," "child abuse," "dealing with stress," and "obesity," among others; the two professor problems were "child care" and "juvenile justice."

The third thematic difference concerned academic content: professors' taxonomies focused more heavily on physiological, biological, and cognitive terms (25 altogether, named 65 times), compared to the teachers' taxonomies (just 4 terms, named 15 times). Physiological and biological terms included "neuropsychological strengths," for example, and "brain maturation"; cognitive terms included "psycholinguistics," "information processing," and "metacognitive processes," among others.

CONCLUSIONS

Although the results are consistent in some ways with the novice-deficit hypothesis, described earlier, they tend to favor a novice-difference interpretation of teachers' and professors' taxonomies of child developmental knowledge. Deficit is indeed implied by professors' more prolific overall responses, by their tendencies to name less well-known aspects of academic developmental psychology, and by their naming theories rather than theorists. These are all signs of expertise in well-structured fields, such as chess or physics (Chi and Ceci, 1987).

The signs of professional expertise are important, but the importance is qualified significantly when combined with the teachers' greater focus on social problems related to children. The latter finding implies that early childhood teachers may indeed have different views of what developmental psychology "is", compared to academic instructors' views of this field. The teachers, in particular, may filter knowledge of developmental psychology through a lens of

social usefulness, organizing the field around social or educational applications to a significant extent. If so, then early childhood teachers may not learn what child development professors teach, even when the professors teach their version of the field well.

Leaders in both academic psychology and in education need to face the possible existence of this gap, and its consequent importance. They need to explore the gap with further research, and respond to it with appropriate revisions in policies about the preparation of teachers, especially in early education and child care training, where academically oriented courses in child development have been especially prominent. Put simply, it may turn out that teachers are not deficient novices with respect to developmental psychology, but are different sorts of experts. The deficiency, if any exists, may lie in the opportunities for communication between teachers' perspectives on development and academic instructors' perspectives.

REFERENCES

Bredekamp, S. (1986). Developmentally appropriate practice. Washington, DC: National Association for the Education of Young Children.

Chi, M., Glaser, R., and Rees, E. (1982). Expertise in problem solving. In R. Sternberg (ed.), Advances in the psychology of human intelligence, vol. 1. Hillsdale, NJ: Erlbaum.

Chi, M. (1985). Interactive roles of knowledge and strategies in the development of organized sorting and recall. In S. Chipman, J. Segal, and R. Glaser (eds.). Thinking and learning skills, vol. 2: Research and open questions. Hillsdale, NJ: Erlbaum.

Chi, M. and Ceci, S. (1987). Content knowledge: Its role, representation, and restructuring in memory development. Advances in child development and behavior, vol. 20.

Berliner, D. (1988, April). Memory for teaching events as a function of expertise. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.

Feiman-Nemser, S. and Buchmann, M. (1986). Pitfalls of experience in teacher preparation. In J. Raths and L. Katz (eds.), Advances in teacher education, vol. 2. Norwood, NJ: Ablex.

Lave, J. (1988). Cognition in practice: Mind, mathematics and culture in everyday life. New York: Cambridge University Press.

National Association for the Education of Young Children. (1982). Early childhood teacher education guidelines for four-and five-year programs. Washington, DC: Author.

National Association for the Education of Young Children. (1982). Early childhood teacher education guidelines for four- and five-year programs. Washington, DC: Author.

Saxe, G. (1990). Culture and cognitive development: Studies in mathematical understanding. Hillsdale, NJ: Erlbaum.

Thies-Sprinthall, J. & Sprinthall, N. (1987). Preservice teachers as adult learners. In M. Haberman & J. Backus (Eds.), Advances in teacher education (Vol. 3, pp. 35-56). Norwood, NJ: Ablex.

Zeichner, K. (1986). Individual and institutional influences on the development of teacher perspectives. In J. Raths & L. Katz (Eds.), Advances in teacher education (Vol. 2, pp. 135-164). Norwood, NJ: Ablex.